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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,627	11/17/2000	Masakazu Hattori	04329.2460	8897

22852 7590 09/16/2003

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EXAMINER

LE, MIRANDA

ART UNIT	PAPER NUMBER
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2177

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

14

Office Action Summary

Application No.

09/714,627

Applicant(s)

MASAKAZU HATTORI,
YOKOHAMA-SHI

Examiner

Miranda Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application):
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This communication is responsive to Amendment A, filed 07/10/2003.
2. Claims 1-14 are pending in this application. Claims 1, 12, 13, 14 are independent claims. In the Amendment A, claims 2-4 have been amended, no claim has been added or canceled. This action is made Final.
3. The objection to claims 2 - 4 have been withdrawn in view of the amendment.

Drawings

4. The corrected or substitute drawings were received on 07/10/2003. These drawings are not acceptable as per attached PTO Form 948.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors.

In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that

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was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. (US Patent No. 6,377,946 B1), in view of et al. (US Patent No. 5,873,081).

As to claims 1, 12, 13, Okamoto teaches “accepting a search request in the form of a logical structured document” at col. 21, lines 7-16, Figs. 4-6 discloses the logical structured document;

“analyzing the accepted search request for generating a search graph” at col. 21, lines 7-16, col. 21, lines 17-28, Fig. 16 discloses a search graph;

“acquiring search results satisfying said search request by executing said search plan” at col. 21, lines 17-27.

Okamoto teaches “a search processing procedure for said structured document database from said search graph, by using index information concerning actual data in said structured document database” at col. 21, lines 7-16, Fig. 16;

Okamoto does not explicitly teach “generating a search plan”; however, teaches this limitation at col. 4, lines 6-26, col. 4, lines 38-52;

Thus, it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Okamoto with the teachings of to include “generating a search plan” in order to determine which document in the stream of incoming document match which queries in a collection of the user queries, as taught by in col. 1, lines 10-13.

As per claim 14, Okamoto teaches “a logical structured document database containing an actual data” at col. 11, lines 15-16 (SGML structure), Fig. 2-element 219, Figs. 4, 6;

“an index information storing section configured to store index information concerning the actual data in said logical structured document database” at col. 12, lines 43-45, Fig. 2, element 218;

“a search request accepting section configured to accept a search request from outside” at col. 11, lines 56-58, col. 21, lines 7-16;

“a search graph generating section configured to generate a search graph, based on said search request” at col. 21, lines 7-16, Fig. 16;

“a search processing procedure for said structured document database, from said search graph, by using index information concerning the actual data in said logical structured document database” at col. 21, lines 7-16;

“executing section configured to acquire search results satisfying said search request by executing said search plan” at col. 21, lines 17-27.

Okamoto does not explicitly teach “a search plan”; however, teaches this limitation at col. 4, lines 6-26, col. 4, lines 38-52, col. 15, lines 13-15;

Thus, it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Okamoto with the teachings of to include “a search plan”, in order to provide the method and mechanism for a large retrieval system involving a relatively large number of incoming documents and a relatively large numbers of queries, as taught by in col. 1, lines 60-67.

As per claim 2, Okamoto teaches “in the generation of said search plan, an optimal search plan is generated by going round said search graph, by using effectively said index information” at col. 47, lines 25-45.

As per claim 3, teaches “the method goes round said search graph based on a strategy to evaluate preferentially to the evaluatable partial graph in said search graph” at col. 12, lines 23-35, col. 13, lines 8-23.

As per claim 4, teaches “the search plan is executed after the completion of whole the generation of said search plan” at col. 9, lines 21-31, col. 4, lines 6-26, col. 9, lines 32-45.

As per claim 5, teaches “generation and execution of said search plan are performed alternately” at col. 11, line 56 to col. 12, line 6.

As per claim 6, Okamoto teaches “said structured document database includes a hierarchical structure concerning element name and element value; said search request includes search conditions concerning said element name and said element value” see Fig. 73.

“said index information includes at least one of data creation index including information for specifying said element value creation position in said structured document database and element name occurrence index including information for specifying said element name creation position in said structured document database” at col. 47, lines 25-45.

As per claim 7, Okamoto teaches “said element name occurrence index includes information indicating said element name creation position by a parent element one rank higher in hierarchy of the partial structure where said element name is generated” see Fig. 73.

As per claim 8, Okamoto teaches “in the generation of said search plan, said search plan is generated by: selecting a plan generation rule, based on a plan generation rule base where a plurality of plan generation rules including information indicating rule application conditions and information indicating the search processing contents to compose said search plan are registered, applying the plan generation rule to the element of said search graph, and deciding a search processing included in the plan generation rule as one search processing constituting said search plan” at col. 36, lines 1-16;

“repeating selection and application of the plan generation rule and decision of the following search processing in said search plan, concerning said search graph element influenced by the results of application of said plan generation rule” at col. 36, lines 17-49.

As per claim 9, teaches “cost information decided by considering said index information is added to said plan generation rule” at col. 13, lines 8-23;

Okamoto teaches “the applicable plan generation rule is selected dynamically by taking account of said cost information” at col. 26, lines 1-49.

As per claim 10, Okamoto teaches, “said plan generation rule can be arbitrarily registered or deleted in said plan generation rule base” at col. 36, lines 1-49.

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As per claim 11, teaches, “said search graph is generated based on the syntax analysis results of the description of said search request, in the generation of said search graph in col. 4, lines 6-26, col. 9, lines 32-45.

Response to Arguments

7. Applicant's arguments filed 03/10/2003 have been fully considered but they are not persuasive.

Applicant argued that:

Neither Okamoto nor Harel et al. alone or in combination discloses/suggest “generating a search plan indicating a search processing procedure for a structure document database from a search graph by using index information concerning actual data in the structured document database”.

The Examiner respectfully disagrees for the following reasons:

Okamoto teaches a search processing procedure for a structured document database from a search graph by using index information concerning actual data in the structured document database at col. 21, lines 11-16 and Fig. 16, i.e., “the string index search program 1702 search the string index stored in the string index storage area 220 in accordance with the condition specification translated by the search condition analysis program 1701 and stores the search result data thus obtained in the search result data storage area 1704”.

It should be noted that the string index corresponds to the “search graph”, and Fig. 16 shows a data structure of a string index (col. 7, lines 7-8).

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Although Okamoto does not expressly teach “generating a search plan”, Harel does teach this limitation at col. 4, lines 38-58 as “a DAG 40 will be constructed based on a file 46 containing the following queries”.

It should be noted that the DAG of Harel corresponds to the search plan. More particularly, the DAG evaluation estimates the relevance of a document to the queries embedded in the DAG 40 (col. 15, lines 13-15).

Therefore, as pointed out by the examiner, the teaching of generating a search plan being taught by Harel is used in combining with the system of Okamoto to render obvious the claimed limitation. It would have been obvious to an artisan at the time of the invention to combine the teachings of Okamoto with the teachings of Harel to include “generating a search plan” in order to provide a method and mechanism for rapidly and efficiently filtering documents against a collection of queries.

Accordingly, the claimed invention as represented in the claims does not represent a patentable over the art of record.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (703) 305-3203. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (703) 305-9790. The fax number to this Art Unit is (703) 746-7238.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.



Miranda Le
September 10, 2003



TETA ROBINSON
PRIMARY EXAMINER